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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/656,264	09/06/2000	Richard Mark Schwartz	99-469	9095

32127 7590 01/04/2007  
VERIZON  
PATENT MANAGEMENT GROUP  
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ARLINGTON, VA 22201-2909

EXAMINER
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OPSASNICK, MICHAEL N

ART UNIT	PAPER NUMBER
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2626

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/04/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

09/656,264

Applicant(s)

SCHWARTZ ET AL.

Examiner

Michael N. Opsasnick

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 9/12/06.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-54 is/are pending in the application.  
4a) Of the above claim(s) 31-52 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-4, 6-30, 53-55 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 53,55 are rejected under 35 U.S.C. 102(b) as being anticipated by Sabourin et al (5987414).

As per claim 53, Sabourin et al (5987414) teaches a method providing directory assistance (col. 1 lines 1-15) comprising receiving a request for a telephone number from a caller, spoken by the caller, including a location and listing (col. 5 lines 42-49); using large vocabulary speech recognition to recognize at least one word spoken by the caller when making the request (col. 5 lines 50-55); generating a transcript from the at least one word and using statistical information retrieval and the transcript to identify a listing corresponding to the recognized word, including using the transcript as a query into a listings database and determining whether the listing is likely to be correct (as converting the input speech request into vocal tract information and accessing the speech recognition dictionary/orthography – col. 5 lines 50-55, wherein the matching between the input speech and the orthographies are phonetically based – col. 5 lines 58-65 – and as such,

teaches a transcription of the input speech to phonetic symbols (col. 12 lines 3-14), and furthermore, a link is established between a phonetic match and the listing itself – col. 6 lines 20-25, and using statistical information relating the speech recognition dictionary and the actual stored listings – col. 7 lines 9-19, and calculating probabilities if the listing is correct (col. 5 line 65 – col. 6 line 4); and providing a telephone number corresponding to the listing to the caller” as providing the telephone number of the desire entity (col. 6 lines 43-45).

As per claim 55, the claim limitations that are similar in scope and content to the claim limitations of claim 53 are rejected using the Sabourin et al (5987414) reference as applied above to claim 53. Furthermore, as per claim 55, Sabourin et al (5987414) also teaches defining a set of words or phrases associated with a listing (col. 10 lines 15 – 40; especially the surname; and as an example, using the profession of the group to further separate the possible matches – col. 11 lines 1-42). Sabourin et al (5987414) also teaches matching the spoken surname with the listing (col. 11 line 60 – col. 12 line3), and if there is no plausible match, rejecting the listing and reverting to a live operator – col. 3 lines 52-67).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1,2,4,6-9,11-17,20-25,27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gupta (6122361) in view of Kahn (6122614) in further view of Schwartz et al (6668044).

As per claims 1,17,21,29,30, Gupta (6122361) teaches an automated directory assistance system (abstract) comprising:

“a speech recognition module.....audible request” as generating scripts from input speech (col. 6 lines 35-50);

“a listing retrieval module.....transcript” as generating a list → fig. 3, subblocks 404-406;

“an accept/reject module.....caller” as reworking the list (Fig. 3, subblock 416) and selecting the top 3 candidates (Fig. 3, subblock 418).

Although Gupta (6122361) teaches generating a list, Gupta (6122361) does not explicitly teach generating a transcript; however, Kahn (6122614) teaches the operator generating transcripts of the user input (Kahn (6122614), col. 8 lines 20-40). Therefore, it would have been obvious to one of ordinary skill in the art of operator system based services at the time the invention was made to modify the teachings of Gupta with operator based transcriptions because it would

advantageously allow for editing of unmatched speech (Kahn (6122614), col. 2 lines 50-60).

The combination of Gupta (6122361) in view of Kahn (6122614) teaches using the transcript (Gupta (6122361), Fig. 3, dotted arrow off of 402) coming from the utterance (Fig. 3, subblock 400)), however, does not explicitly teach storing the transcript to be used as a query; Schwartz et al (6668044) teaches access an archive for a database query (Fig. 7, subblocks 210,212, and 214). Therefore, it would have been obvious to one of ordinary skill in the art of telephonic communications at the time the invention was made to modify the combination of Gupta (6122361) in view of Kahn (6122614) with stored transcripts access a database because it would advantageously track information associated with the caller and the callee (col. 11 lines 45-55).

As per claim 2, Gupta (6122361) teaches a large speech recognizer (col. 8 lines 11-15);

As per claims 4,11,25, Gupta (6122361) teaches the use of probability statistics (col. 2 lines 28-32).

As per claims 6,22, Gupta (6122361) teaches reordering and ranking (Fig. 3, subblock 416).

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As per claims 7,12,23,27, Gupta (6122361) teaches acceptance/rejection based on a recognized word from the listing (fig. 2).

As per claims 8,24,28, Gupta (6122361) teaches transference to a human operator upon rejection (col. 8 line 65 – col. 9 line 3).

As per claim 9, Gupta (6122361) teaches a training system to configure the recognition modules as using orthographies that are configured/trained by certain utterances based on geography (col. 2 line 6-25) or as a first pass search (col. 2 lines 45-50, and col. 12 lines 38-44).

As per claim 13, Gupta (6122361) teaches generating transcripts based upon a priori probabilities and histograms (Fig. 3, subblocks 408,412).

As per claim 14, Gupta (6122361) teaches creating loose grammars and training the transcript according to the grammar (col. 2, lines 28-32; Gupta (6122361) teaches a three layer dictionary comprising a first layer recognition process performing a rough calculation (col. 7 lines 34-44), and second layer rescoring stage (col. 7 lines 45-59), and a third final decision scoring stage (col. 7 lines 58-67). Examiner takes Official Notice that the multiple layer grammar of Gupta (6122361) can be construed as a loose grammar, i.e., the pass that is a “rough estimate” is equivalent to a “loose grammar” (Evidence to the Official

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Notice can be found in Martin (5642519), col. 25 lines 1-11, showing a multipass grammar system wherein a less accurate pass is known as a “loose” grammar.)

As per claim 15, Gupta (6122361) teaches acceptance/rejection based upon recognition (fig. 2).

As per claim 16, Gupta (6122361) teaches a verification/correction module to a human for verification (col. 8 line 60 - col. 9 line 3).

As per claim 20, Gupta (6122361) teaches identifying words and telephone numbers (col. 10 lines 1-11).

5. Claims 3,10,18,19,26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gupta (6122361) in view of Junqua et al (5799065) in view of Kahn (6122614) in further view of Schwartz et al (6668044).

As per claims 3,10,18,19,26, Gupta (6122361) teaches using acoustics and grammar models (col. 2 lines 28-32).

As per claims 1,17,21,29,30, Gupta (6122361) teaches an automated directory assistance system (abstract) comprising:

“a speech recognition module.....audible request” as generating scripts from input speech (col. 6 lines 35-50);



“a listing retrieval module.....transcript” as generating a list → fig. 3, subblocks 404-406;  
“an accept/reject module.....caller” as reworking the list (Fig. 3, subblock 416) and selecting the top 3 candidates (Fig. 3, subblock 418).

Although Gupta (6122361) teaches using acoustics and grammar models (col. 2 lines 28-32), Gupta fails to detail n-gram grammar models; Junqua et al (5799065) teaches call recognition based upon loose grammars, grammar rules, and in particular, n-gram models (col. 7 line 60 – col. 8 line 15; to be used for call recognition, col. 3 lines 25-32). Therefore, it would have been obvious to one of ordinary skill in the art of automated directory assistance to modify the system as taught by Gupta (6122361) with a constrained grammar system tailored to detect/route recognized phone numbers because it would advantageously allow for the user to gain access to that particular number without having to touch-tone the person's name (Junqua et al (5799065), col. 1 lines 25-36).

The combination of Gupta (6122361) in view of Junqua et al (5799065) does not explicitly teach generating a transcript; however, Kahn (6122614) teaches the operator generating transcripts of the user input (Kahn (6122614), col. 8 lines 20-40). Therefore, it would have been obvious to one of ordinary skill in the art of operator system based services at the time the invention was made to modify the teachings of Gupta (6122361) in view of Junqua et al (5799065) with operator based transcriptions because it would advantageously allow for editing of unmatched speech (Kahn (6122614), col. 2 lines 50-60).

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The combination of Gupta (6122361) in view of Junqua et al (5799065) in view of Kahn (6122614) teaches using the transcript (Gupta (6122361), Fig. 3, dotted arrow off of 402) coming from the utterance (Fig. 3, subblock 400)), however, does not explicitly teach storing the transcript to be used as a query; Schwartz et al (6668044) teaches access an archive for a database query (Fig. 7, subblocks 210,212, and 214). Therefore, it would have been obvious to one of ordinary skill in the art of telephonic communications at the time the invention was made to modify the combination of Gupta (6122361) in view of Junqua et al (5799065) in view of Kahn (6122614) with stored transcripts access a database because it would advantageously track information associated with the caller and the callee (col. 11 lines 45-55).

6. Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sabourin et al (5987414) in view of Daudelin (4959855).

As per claim 54, Sabourin et al (5987414) teaches a method providing directory assistance (col. 1 lines 1-15) comprising receiving a request for a telephone number from a caller, spoken by the caller, including a location and listing (col. 5 lines 42-49); using large vocabulary speech recognition to recognize at least one word spoken by the caller when making the request (col. 5 lines 50-55); generating a transcript from the at least one word and using statistical information retrieval and the transcript to identify a listing corresponding to the recognized word, including using the transcript as a query into a listings database and determining whether the listing is likely to be correct (as converting the input speech request into vocal tract information and accessing the speech recognition dictionary/orthography – col. 5 lines 50-55, wherein the matching between the input speech and the orthographies are

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phonetically based – col. 5 lines 58-65 – and as such, teaches a transcription of the input speech to phonetic symbols (col. 12 lines 3-14), and furthermore, a link is established between a phonetic match and the listing itself – col. 6 lines 20-25, and using statistical information relating the speech recognition dictionary and the actual stored listings – col. 7 lines 9-19, and calculating probabilities if the listing is correct (col. 5 line 65 – col. 6 line 4); and providing a telephone number corresponding to the listing to the caller” as providing the telephone number of the desire entity (col. 6 lines 43-45)..

Sabourin et al (5987414) does not explicitly teach connecting the call to the corresponding listing, however, Daudelin (4959855) teaches automatic connection of the call after the listing is required (col. 1 lines 2-10). Therefore, it would have been obvious to one of ordinary skill in the art of directory assistance to modify the teachings of Sabourin et al (5987414) with automatic connection of the call corresponding to the listing because it would advantageously save the customer from having to re-dial the listed number (Daudelin (4959855), col. 2 lines 4-8).

### ***Response to Arguments***

7. Applicant's arguments filed 9/12/2006 have been fully considered but they are not persuasive. Applicant's arguments towards claims 53-55 are moot in view of the new grounds of rejection. As per the combination of Gupta in view of Kahn, examiner is not using the user input of Kahn, but the operator transcription aspect of Kahn. Applicant's arguments are not toward the combination presented by the examiner. The purpose of the Gupta reference is to enhance

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existing automated speech recognition which provides listings of telephone numbers based on the users input (Gupta, col. 1 lines 30-56). In other words, Gupta improves upon the speech recognition process by applying locality information **to prior, already existing, automated directory assistant systems that produce possible listings corresponding to the user's input.**

It is old and notoriously well known that in partial or fully automated directory assistance systems to 1) present a telephone number corresponding to a request for a listing and 2) to offer a connection for the caller to a called party listing. Applicant's arguments towards ngrams and loose grammars are moot in view of the new grounds of rejection.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please see related art listed on the PTO-892 form.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Opsasnick, telephone number (571)272-7623, who is available Tuesday-Thursday, 9am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Richemond Dorvil, can be reached at (571)272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*M. M. Goswami*  
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